



Active

- ☒ L2: (315) (discharge adj lamp) and ballast and ((voltage near2 (sens\$3 or detect\$3)) same input)
- ☒ L3: (159) 2 and (reduc\$4 near2 (power or volatge or current))
- ☒ L5: (77) 4 and protect\$3
- ☒ L4: (118) 2 and (reduc\$4 near2 power)
- ☒ L10: (108) 2 and (reduc\$4 near2 current)

DBs: USPAT; US-PGPUB; EPO; JPO; DERWENT

☒ PluralsDefault operator: ☒ Highlight all hit terms initially

	Type	L #	Hits	Search Text	DBs	Time Stamp	C	E	Err
1	BRS	L2	315	(discharge adj lamp) and ballast and ((voltage near2 (sens\$3 or detect\$3)) same input) and (voltage with (predetermined or determined or preselected or selected or set or preset or predefined or defined or threshold))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:35			0
2	BRS	L3	159	2 and (reduc\$4 near2 (power or volatge or current))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 14:30			0
3	BRS	L5	77	4 and protect\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 14:31			0
4	BRS	L4	118	2 and (reduc\$4 near2 power)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 14:02			0
5	BRS	L10	108	2 and (reduc\$4 near2 current)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:23			0
6	BRS	L11	72	10 and protect\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:22			0
7	BRS	L12	45	10 and diode and trigger	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:24			0
8	BRS	L13	36	12 and oscillat\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:25			0
9	BRS	L14	36	13 and transistor	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:25			0
10	BRS	L15	17	14 and MOSFET	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:25			0
11	BRS	L17	13	14 and (SCR or (silicon adj controlled adj rectifier))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:32			0
12	BRS	L18	162	(discharge adj lamp) and ballast and ((voltage near2 (sens\$3 or detect\$3)) same input) and (voltage with (predetermined or determined or preselected or selected or set or preset or predefined or defined or threshold)) and inverter and transistor	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:39			0
13	BRS	L19	75	18 and delay	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:39			0
14	BRS	L21	15	20 and shut-off	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:40			0
15	BRS	L20	71	19 and capacitor and resistor	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/06/28 15:47			0

	Document ID	Issue Date	Pages	Title	Current OR
1	US 20030117089 A1	20030626	27	Driving serially connected high intensity discharge lamps	315/312
2	US 20030117084 A1	20030626	17	Ballast with lamp sensor and method therefor	315/224
3	US 2003011969 A1	20030619	17	Ballast for a discharge lamp	315/291
4	US 20030057871 A1	20030327	29	Self-ballasted fluorescent lamp	315/224
5	US 20030001522 A1	20030102	42	Electronic ballast	315/291
6	US 20030001516 A1	20030102	38	Electronic ballast	315/224
7	US 20020074954 A1	20020620	16	Ballast with abnormal lamp sensor and method therefor	315/291
8	US 6459213 B1	20021001	37	Ballast for parallel-connected lamps	315/224
9	US 6400095 B1	20020604	28	Process and device for the detection of the rectifier effect appearing in a gas discharge lamp	315/224
10	US 6351081 B1	20020226	8	Electronic ballast for high intensity discharge lamp	315/224
11	US 6288501 B1	20010911	20	Ballast for a discharge lamp	315/307
12	US 6218787 B1	20010417	17	Remote dimming control system for a fluorescent ballast utilizing existing building wiring	315/194
13	US 6181084 B1	20010130	12	Ballast circuit for high intensity discharge lamps	315/291
14	US 6181079 B1	20010130	10	High power electronic ballast with an integrated magnetic component	315/247
15	US 6151232 A	20001121	25	Power supply circuit utilizing a piezoelectric transformer that supplies power to a load whose impedance varies depending on temperature	363/97
16	US 6107755 A	20000822	18	Modular, configurable dimming ballast for a gas-discharge lamp	315/307
17	US 6107749 A	20000822	10	FET-bipolar electronic ballast	315/219
18	US 6081104 A	20000627	24	Method and apparatus for providing energy to a lighting system	323/268
19	US 6072710 A	20000606	7	Regulated self-oscillating resonant converter with current feedback	363/132
20	US 6057652 A	20000502	77	Power supply for supplying AC output power	315/307

	Document ID	Issue Date	Pages	Title	Current OR
21	US 6011360 A	20000104	9	High efficiency dimmable cold cathode fluorescent lamp ballast	315/244
22	US 6008590 A	19991228	13	Integrated circuit inverter control having a multi-function pin	315/209R
23	US 5982110 A	19991109	15	Compact fluorescent lamp with overcurrent protection	315/247
24	US 5951145 A	19990914	36	Lighting apparatus	362/216
25	US 5925990 A	19990720	13	Microprocessor controlled electronic ballast	315/307
26	US 5925986 A	19990720	14	Method and apparatus for controlling power delivered to a fluorescent lamp	315/247
27	US 5853572 A	19981229	21	Home water purification system	210/87
28	US 5841239 A	19981124	27	Circuit for dimming compact fluorescent lamps	315/219
29	US 5821700 A	19981013		Visual warning system for a railway vehicle	315/291
30	US 5806055 A	19980908		Solid state ballast system for metal halide lighting using fuzzy logic control	706/45
31	US 5798620 A	19980825		Fluorescent lamp dimming	315/307
32	US 5742134 A	19980421	15	Inverter driving scheme	315/307

	Document ID	Issue Date	Pages	Title	Current OR
33	US 5699238 A	19971216	29	Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/21.03
34	US 5698091 A	19971216	20	Home water purification system with filter end of life monitor	210/87
35	US 5696431 A	19971209	14	Inverter driving scheme for capacitive mode protection	315/308
36	US 5680017 A	19971021	12	Driving scheme for minimizing ignition flash	315/308
37	US 5677602 A	19971014	17	High efficiency electronic ballast for high intensity discharge lamps	315/224
38	US 5625258 A	19970429		Clocked power supply	315/82
39	US 5568041 A	19961022	18	Low-cost power factor correction circuit and method for electronic ballasts	323/207
40	US 5546300 A	19960813	30	Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/132
41	US 5536395 A	19960716		Home water purification system with automatic disconnecting of radiant energy source	210/87
42	US 5519289 A	19960521	17	Electronic ballast with lamp current correction circuit	315/224
43	US 5500792 A	19960319	26	Zero-voltage switching type electronic ballast for fluorescent lamp	363/98
44	US 5498936 A	19960312		Power system with simplified, low cost self-starting self oscillator, power factor correction, power regulation and output open circuit voltage regulation, overload and short circuit protection	315/247

	Document ID	Issue Date	Pages	Title	Current OR
45	US 5440475 A	19950808	8	Electronic Ballast with low harmonic distortion	363/45
46	US 5406471 A	19950411	12	AC-to-DC converter incorporating a chopper and charge-pump circuit combination	363/124
47	US 5402043 A	19950328	42	Controlled driven series-resonant ballast	315/307
48	US 5384516 A	19950124	36	Information processing apparatus including a control circuit for controlling a liquid crystal display illumination based on whether illumination power is being supplied from an AC power source or from a battery	315/160
49	US 5371439 A	19941206	9	Electronic ballast with lamp power regulation and brownout accommodation	315/209R
50	US 5235254 A	19930810	12	Fluorescent lamp supply circuit	315/219
51	US 5225742 A	19930706	9	Solid state ballast for high intensity discharge lamps	315/307
52	US 5192897 A	19930309	11	Electronic high frequency controlled device for operating gas discharge lamps	315/308
53	US 5142202 A	19920825		Starting and operating circuit for arc discharge lamp	315/225
54	US 5117161 A	19920526	6	Electronic ballast for gas discharge lamps	315/226
55	US 5089925 A	19920218		Protection device for electronic circuit	361/84
56	US 4904907 A	19900227		Ballast circuit for metal halide lamp	315/307

	Document ID	Issue Date	Pages	Title	Current OR
57	US 4777409 A	19881011		Fluorescent lamp energizing circuit	315/200R
58	US 4728866 A	19880301	29	Power control system	315/224
59	US 4723098 A	19880202		Electronic ballast circuit for fluorescent lamps	315/306
60	US 4684850 A	19870804	10	Variable frequency bridge inverter for driving gas discharge lamps	315/209R
61	US 4651060 A	19870317		Method and apparatus for dimming fluorescent lights	315/199
62	US 4501994 A	19850226		Ballast modifying device and lead-type ballast for programming and controlling the operating performance of an hid sodium lamp	315/307
63	US 4477748 A	19841016	15	Solid state ballast	315/306
64	US 4425628 A	19840110		Control module for energy management system	710/8
65	US 4398130 A	19830809	14	Arc lamp lighting unit with low and high light levels	315/226
66	US 4358717 A	19821109	11	Direct current power source for an electric discharge lamp	315/308
67	US 4356433 A	19821026		HID Lamp power supply	315/308

	Document ID	Issue Date	Pages	Title	Current OR
68	US 4350930 A	19820921	23	Lighting unit	315/49
69	US 4327309 A	19820427		Fluorescent lamp power supply with low voltage lamp polarity reversal	315/170
70	US 4117373 A	19780926		Emergency/normal lighting circuit for a gaseous discharge lamp	315/86
71	US 3890537 A	19750617		Solid state chopper ballast for gaseous discharge lamps	315/208
72	US 3628086 A	19711214	7	HIGH-FREQUENCY LAMP-OPERATING CIRCUIT	315/80

	Document ID	Issue Date	Pages	Title	Current OR
1	US 20030117089.A1	20030626	27	Driving serially connected high intensity discharge lamps	315/312
2	US 20030117084 A1	20030626	17	Ballast with lamp sensor and method therefor	315/224
3	US 20030111969 A1	20030619	17	Ballast for a discharge lamp	315/291
4	US 20030107332 A1	20030612	29	Single switch electronic dimming ballast	315/307
5	US 20030057871 A1	20030327	29	Self-ballasted fluorescent lamp	315/224
6	US 20030002300 A1	20030102	14	Dc-dc converter with reduced input current ripples	363/21.01
7	US 20030001522 A1	20030102	42	Electronic ballast	315/291
8	US 20030001516 A1	20030102	38	Electronic ballast	315/224
9	US 20020074954 A1	20020620	16	Ballast with abnormal lamp sensor and method therefor	315/291
10	US 20020047645 A1	20020425	11	Ballast for discharge lamp	315/308
11	US 20020036608 A1	20020328	60	Liquid crystal display device having an improved lighting device	345/87
12	US 6495971 B1	20021217	14	High intensity discharge lamp ballast	315/291
13	US 6459213 B1	20021001	37	Ballast for parallel-connected lamps	315/224
14	US 6400095 B1	20020604	28	Process and device for the detection of the rectifier effect appearing in a gas discharge lamp	315/224
15	US 6388397 B1	20020514	17	Discharge lamp lighting device	315/307
16	US 6384544 B1	20020507	14	High intensity discharge lamp ballast	315/291
17	US 6359387 B1	20020319	8	Gas-discharge lamp type recognition based on built-in lamp electrical properties	315/46
18	US 6351081 B1	20020226	8	Electronic ballast for high intensity discharge lamp	315/224
19	US 6326740 B1	20011204	17	High frequency electronic ballast for multiple lamp independent operation	315/291
20	US 6288501 B1	20010911	20	Ballast for a discharge lamp	315/307

	Document ID	Issue Date	Pages	Title	Current OR
21	US 6225760 B1	20010501	16	Fluorescent lamp dimmer system	315/360
22	US 6218787 B1	20010417	17	Remote dimming control system for a fluorescent ballast utilizing existing building wiring	315/194
23	US 6194841 B1	20010227	22	Discharge lamp lighting device	315/224
24	US 6191568 B1	20010220	27	Load power reduction control and supply system	323/268
25	US 6188183 B1	20010213	16	High intensity discharge lamp ballast	315/307
26	US 6181084 B1	20010130	12	Ballast circuit for high intensity discharge lamps	315/291
27	US 6181079 B1	20010130	10	High power electronic ballast with an integrated magnetic component	315/247
28	US 6151232 A	20001121	25	Power supply circuit utilizing a piezoelectric transformer that supplies power to a load whose impedance varies depending on temperature	363/97
29	US 6107755 A	20000822	18	Modular, configurable dimming ballast for a gas-discharge lamp	315/307
30	US 6107749 A	20000822	10	FET-bipolar electronic ballast	315/219
31	US 6081104 A	20000627	24	Method and apparatus for providing energy to a lighting system	323/268
32	US 6072710 A	20000606	7	Regulated self-oscillating resonant converter with current feedback	363/132
33	US 6057652 A	20000502	77	Power supply for supplying AC output power	315/307
34	US 6011360 A	20000104	9	High efficiency dimmable cold cathode fluorescent lamp ballast	315/244
35	US 6008590 A	19991228	13	Integrated circuit inverter control having a multi-function pin	315/209R
36	US 5982110 A	19991109	15	Compact fluorescent lamp with overcurrent protection	315/247
37	US 5951145 A	19990914	36	Lighting apparatus	362/216
38	US 5949199 A	19990907	23	Gas discharge lamp inverter with a wide input voltage range	315/307

	Document ID	Issue Date	Pages	Title	Current OR
39	US 5939838 A	19990817	13	Ferroresonant transformer ballast for maintaining the current of gas discharge lamps at a predetermined value	315/277
40	US 5936357 A	19990810	9	Electronic ballast that manages switching frequencies for extrinsic purposes	315/247
41	US 5925990 A	19990720	13	Microprocessor controlled electronic ballast	315/307
42	US 5925986 A	19990720	14	Method and apparatus for controlling power delivered to a fluorescent lamp	315/247
43	US 5914572 A	19990622	39	Discharge lamp driving circuit having resonant circuit defining two resonance modes	315/307
44	US 5853572 A	19981229	21	Home water purification system	210/87
45	US 5841239 A	19981124	27	Circuit for dimming compact fluorescent lamps	315/219
46	US 5821700 A	19981013		Visual warning system for a railway vehicle	315/291
47	US 5815067 A	19980929		Single control wire device for HID dimming	340/310.01
48	US 5806055 A	19980908		Solid state ballast system for metal halide lighting using fuzzy logic control	706/45
49	US 5798620 A	19980825		Fluorescent lamp dimming	315/307
50	US 5786671 A	19980728	10	Electronic ballast circuit having voltage reducing transformer	315/307
51	US 5773937 A	19980630		Discharge lamp-lighting apparatus for straightening arc discharge	315/246

	Document ID	Issue Date	Pages	Title	Current OR
52	US 5742134 A	19980421	15	Inverter driving scheme	315/307
53	US 5737207 A	19980407	31	Power supply	363/132
54	US 5708330 A	19980113		Resonant voltage-multiplication, current-regulating and ignition circuit for a fluorescent lamp	315/244
55	US 5699238 A	19971216	29	Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/21.03
56	US 5698091 A	19971216	20	Home water purification system with filter end of life monitor	210/87
57	US 5696431 A	19971209	14	Inverter driving scheme for capacitive mode protection	315/308
58	US 5680017 A	19971021	12	Driving scheme for minimizing ignition flash	315/308
59	US 5677602 A	19971014	17	High efficiency electronic ballast for high intensity discharge lamps	315/224
60	US 5631523 A	19970520		Method of regulating lamp current through a fluorescent lamp by pulse energizing a driving supply	315/307
61	US 5625258 A	19970429		Clocked power supply	315/82
62	US 5600211 A	19970204		Electronic ballast for gas discharge lamps	315/307
63	US 5568041 A	19961022	18	Low-cost power factor correction circuit and method for electronic ballasts	323/207
64	US 5546300 A	19960813	30	Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/132
65	US 5536395 A	19960716		Home water purification system with automatic disconnecting of radiant energy source	210/87

	Document ID	Issue Date	Pages	Title	Current OR
66	US 5519289 A	19960521	17	Electronic ballast with lamp current correction circuit	315/224
67	US 5500792 A	19960319	26	Zero-voltage switching type electronic ballast for fluorescent lamp	363/98
68	US 5498936 A	19960312		Power system with simplified, low cost self-starting self oscillator, power factor correction, power regulation and output open circuit voltage regulation, overload and short circuit protection	315/247
69	US 5440475 A	19950808	8	Electronic Ballast with low harmonic distortion	363/45
70	US 5406471 A	19950411	12	AC-to-DC converter incorporating a chopper and charge-pump circuit combination	363/124
71	US 5402043 A	19950328	42	Controlled driven series-resonant ballast	315/307
72	US 5384516 A	19950124	36	Information processing apparatus including a control circuit for controlling a liquid crystal display illumination based on whether illumination power is being supplied from an AC power source or from a battery	315/160
73	US 5371439 A	19941206	9	Electronic ballast with lamp power regulation and brownout accommodation	315/209R
74	US 5235254 A	19930810	12	Fluorescent lamp supply circuit	315/219
75	US 5225742 A	19930706	9	Solid state ballast for high intensity discharge lamps	315/307
76	US 5192897 A	19930309	11	Electronic high frequency controlled device for operating gas discharge lamps	315/308

	Document ID	Issue Date	Pages	Title	Current OR
77	US 5142202 A	19920825		Starting and operating circuit for arc discharge lamp	315/225
78	US 5117161 A	19920526	6	Electronic ballast for gas discharge lamps	315/226
79	US 5107184 A	19920421		Remote control of fluorescent lamp ballast using power flow interruption coding with means to maintain filament voltage substantially constant as the lamp voltage decreases	315/291
80	US 5089925 A	19920218		Protection device for electronic circuit	361/84
81	US 5068576 A	19911126		Remote control of fluorescent lamp ballast using power flow interruption coding with means to maintain filament voltage substantially constant as the lamp voltage decreases	315/291
82	US 5055746 A	19911008		Remote control of fluorescent lamp ballast using power flow interruption coding with means to maintain filament voltage substantially constant as the lamp voltage decreases	315/291
83	US 5030887 A	19910709	10	High frequency fluorescent lamp exciter	315/158
84	US 4958108 A	19900918	9	Universal fluorescent lamp ballast	315/307
85	US 4904907 A	19900227		Ballast circuit for metal halide lamp	315/307
86	US 4777409 A	19881011		Fluorescent lamp energizing circuit	315/200R
87	US 4728866 A	19880301	29	Power control system	315/224

	Document ID	Issue Date	Pages	Title	Current OR
88	US 4723098 A	19880202		Electronic ballast circuit for fluorescent lamps	315/306
89	US 4684850 A	19870804	10	Variable frequency bridge inverter for driving gas discharge lamps	315/209R
90	US 4651060 A	19870317		Method and apparatus for dimming fluorescent lights	315/199
91	US 4501994 A	19850226		Ballast modifying device and lead-type ballast for programming and controlling the operating performance of an hid sodium lamp	315/307
92	US 4477748 A	19841016	15	Solid state ballast	315/306
93	US 4425628 A	19840110		Control module for energy management system	710/8
94	US 4414493 A	19831108	12	Light dimmer for solid state ballast	315/308
95	US 4409522 A	19831011	7	Direct current power source for an electric discharge lamp using reduced starting current	315/308
96	US 4398130 A	19830809	14	Arc lamp lighting unit with low and high light levels	315/226
97	US 4396872 A	19830802	16	Ballast circuit and method for optimizing the operation of high intensity discharge lamps in the growing of plants	315/308
98	US 4358717 A	19821109	11	Direct current power source for an electric discharge lamp	315/308
99	US 4356433 A	19821026		HID Lamp power supply	315/308

	Document ID	Issue Date	Pages	Title	Current OR
100	US 4350930 A	19820921	23	Lighting unit	315/49
101	US 4327309 A	19820427		Fluorescent lamp power supply with low voltage lamp polarity reversal	315/170
102	US 4277728 A	19810707		Power supply for a high intensity discharge or fluorescent lamp	315/307
103	US 4117373 A	19780926		Emergency/normal lighting circuit for a gaseous discharge lamp	315/86
104	US 3989976 A	19761102	9	Solid-state hid lamp dimmer	315/291
105	US 3987356 A	19761019		Controlled capacitive filter for active loads	363/44
106	US 3913002 A	19751014	15	Power circuits for obtaining a high power factor electronically	363/18
107	US 3890537 A	19750617		Solid state chopper ballast for gaseous discharge lamps	315/208
108	US 3628086 A	19711214	7	HIGH-FREQUENCY LAMP-OPERATING CIRCUIT	315/80

	Document ID	Issue Date	Pages	Title	Current OR
1	US 20030117089 A1	20030626	27	Driving serially connected high intensity discharge lamps	315/312
2	US 20030117084 A1	20030626	17	Ballast with lamp sensor and method therefor	315/224
3	US 20030025463 A1	20030206	9	Method of regulating power in a high-intensity-discharge lamp	315/291
4	US 20030002300 A1	20030102	14	Dc-dc converter with reduced input current ripples	363/21.01
5	US 20030001516 A1	20030102	38	Electronic ballast	315/224
6	US 20020153849 A1	20021024	12	Electronic dimmable ballast for high intensity discharge lamp	315/247
7	US 20020074954 A1	20020620	16	Ballast with abnormal lamp sensor and method therefor	315/291
8	US 20020047601 A1	20020425	35	Method and apparatus for controlling a discharge lamp in a backlighted display	315/224
9	US 20020036608 A1	20020328	60	Liquid crystal display device having an improved lighting device	345/87
10	US 6495971 B1	20021217	14	High intensity discharge lamp ballast	315/291
11	US 6465991 B1	20021015	9	Switchable power converter with coupled inductor boost and coupled inductor SEPIC for multiple level input line power factor correction	323/222
12	US 6459213 B1	20021001	37	Ballast for parallel-connected lamps	315/224
13	US 6384544 B1	20020507	14	High intensity discharge lamp ballast	315/291
14	US 6351081 B1	20020226	8	Electronic ballast for high intensity discharge lamp	315/224
15	US 6326740 B1	20011204	17	High frequency electronic ballast for multiple lamp independent operation	315/291
16	US 6316881 B1	20011113	34	Method and apparatus for controlling a discharge lamp in a backlighted display	315/219
17	US 6281642 B1	20010828	9	Ballast for a discharge lamp with false deactivation detection	315/308
18	US 6259215 B1	20010710	14	Electronic high intensity discharge ballast	315/307
19	US 6225760 B1	20010501	16	Fluorescent lamp dimmer system	315/360

	Document ID	Issue Date	Pages	Title	Current OR
20	US 6218787 B1	20010417	17	Remote dimming control system for a fluorescent ballast utilizing existing building wiring	315/194
21	US 6215252 B1	20010410	7	Method and apparatus for lamp control	315/224
22	US 6194841 B1	20010227	22	Discharge lamp lighting device	315/224
23	US 6191568 B1	20010220	27	Load power reduction control and supply system	323/268
24	US 6188183 B1	20010213	16	High intensity discharge lamp ballast	315/307
25	US 6181084 B1	20010130	12	Ballast circuit for high intensity discharge lamps	315/291
26	US 6181079 B1	20010130	10	High power electronic ballast with an integrated magnetic component	315/247
27	US 6151232 A	20001121	25	Power supply circuit utilizing a piezoelectric transformer that supplies power to a load whose impedance varies depending on temperature	363/97
28	US 6122182 A	20000919	9	Direct AC to AC power conversion apparatus for controlling power delivered to a load	363/39
29	US 6114814 A	20000905	33	Apparatus for controlling a discharge lamp in a backlighted display	315/219
30	US 6081104 A	20000627	24	Method and apparatus for providing energy to a lighting system	323/268
31	US 6072710 A	20000606	7	Regulated self-oscillating resonant converter with current feedback	363/132
32	US 6057652 A	20000502	77	Power supply for supplying AC output power	315/307
33	US 6031749 A	20000229	21	Universal power module	363/98
34	US 6023132 A	20000208	8	Electronic ballast deriving auxilliary power from lamp output	315/307
35	US 6011360 A	20000104	9	High efficiency dimmable cold cathode fluorescent lamp ballast	315/244
36	US 6008590 A	19991228	13	Integrated circuit inverter control having a multi-function pin	315/209R
37	US 5982113 A	19991109	7	Electronic ballast producing voltage having trapezoidal envelope for instant start lamps	315/291
38	US 5982110 A	19991109	15	Compact fluorescent lamp with overcurrent protection	315/247
39	US 5962988 A	19991005	26	Multi-voltage ballast and dimming circuits for a lamp drive voltage transformation and ballasting system	315/291

	Document ID	Issue Date	Pages	Title	Current OR
40	US 5951145 A	19990914	36	Lighting apparatus	362/216
41	US 5949199 A	19990907	23	Gas discharge lamp inverter with a wide input voltage range	315/307
42	US 5939838 A	19990817	13	Ferroresonant transformer ballast for maintaining the current of gas discharge lamps at a predetermined value	315/277
43	US 5936357 A	19990810	9	Electronic ballast that manages switching frequencies for extrinsic purposes	315/247
44	US 5930126 A	19990727	12	Ballast shut-down circuit responsive to an unbalanced load condition in a single lamp ballast or in either lamp of a two-lamp ballast	363/37
45	US 5925990 A	19990720	13	Microprocessor controlled electronic ballast	315/307
46	US 5883473 A	19990316	17	Electronic Ballast with inverter protection circuit	315/225
47	US 5877681 A	19990302	27	System and method for broadcasting colored light for emergency signalling	340/471
48	US 5869935 A	19990209	13	Electronic ballast with inverter protection circuit	315/225
49	US 5864212 A	19990126	25	Control system for providing power to a gas discharge lamp	315/205
50	US 5856919 A	19990105	9	Quasiresonant boost power converter with bidirectional inductor current	363/101
51	US 5853572 A	19981229	21	Home water purification system	210/87
52	US 5841239 A	19981124	27	Circuit for dimming compact fluorescent lamps	315/219

	Document ID	Issue Date	Pages	Title	Current OR
53	US 5838181 A	19981117	17	Pulse-width modulator circuit for use in low-cost power factor correction circuit	327/175
54	US 5834903 A	19981110	10	Double resonant driver ballast for gas lamps	315/219
55	US 5828178 A	19981027	23	High intensity discharge lamp color	315/151
56	US 5796216 A	19980818	21	Electronic ignition enhancing circuit having both fundamental and harmonic resonant circuits as well as a DC offset	315/307
57	US 5786671 A	19980728	10	Electronic ballast circuit having voltage reducing transformer	315/307
58	US 5770925 A	19980623	19	Electronic ballast with inverter protection and relamping circuits	315/225
59	US 5757630 A	19980526	20	Control circuit with improved functionality for non-linear and negative resistance loads	363/39
60	US 5751120 A	19980512	9	DC operated electronic ballast for fluorescent light	315/307
61	US 5742134 A	19980421	15	Inverter driving scheme	315/307
62	US 5737207 A	19980407	31	Power supply	363/132
63	US 5723951 A	19980303	9	Method of hot restarting a high intensity discharge lamp	315/174
64	US 5699238 A	19971216	29	Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/21.03
65	US 5698091 A	19971216	20	Home water purification system with filter end of life monitor	210/87
66	US 5696431 A	19971209	14	Inverter driving scheme for capacitive mode protection	315/308

	Document ID	Issue Date	Pages	Title	Current OR
67	US 5691696 A	19971125	34	System and method for broadcasting colored light for emergency signals	340/471
68	US 5680017 A	19971021	12	Driving scheme for minimizing ignition flash	315/308
69	US 5677602 A	19971014	17	High efficiency electronic ballast for high intensity discharge lamps	315/224
70	US 5650925 A	19970722	18	Diode clamping arrangement for use in electronic ballasts	363/132
71	US 5636111 A	19970603	13	Ballast shut-down circuit responsive to an unbalanced load condition in a single lamp ballast or in either lamp of a two-lamp ballast	363/37
72	US 5568041 A	19961022	18	Low-cost power factor correction circuit and method for electronic ballasts	323/207
73	US 5546300 A	19960813	30	Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/132
74	US 5519289 A	19960521	17	Electronic ballast with lamp current correction circuit	315/224
75	US 5512801 A	19960430	34	Ballast for instant-start parallel-connected lamps	315/209R
76	US 5500792 A	19960319	26	Zero-voltage switching type electronic ballast for fluorescent lamp	363/98
77	US 5500576 A	19960319	12	Low height ballast for fluorescent lamps	315/307
78	US 5493180 A	19960220	12	Lamp protective, electronic ballast	315/91
79	US 5446342 A	19950829	10	Light-output-controlled fluorescent lighting fixture	315/129
80	US 5440475 A	19950808	8	Electronic Ballast with low harmonic distortion	363/45
81	US 5406471 A	19950411	12	AC-to-DC converter incorporating a chopper and charge-pump circuit combination	363/124
82	US 5402043 A	19950328	42	Controlled driven series-resonant ballast	315/307

	Document ID	Issue Date	Pages	Title	Current OR
83	US 5394062 A	19950228	13	Lamp ballast circuit with overload detection and ballast operability indication features	315/129
84	US 5384516 A	19950124	36	Information processing apparatus including a control circuit for controlling a liquid crystal display illumination based on whether illumination power is being supplied from an AC power source or from a battery	315/160
85	US 5371439 A	19941206	9	Electronic ballast with lamp power regulation and brownout accommodation	315/209R
86	US 5317237 A	19940531	15	Low voltage ballast circuit for a high brightness discharge light source	315/307
87	US 5270620 A	19931214	12	High frequency resonant converter for operating metal halide lamps	315/291
88	US 5266869 A	19931130	22	Discharge lamp lighting apparatus having output impedance which limits current flow therethrough after start of discharging	315/170
89	US 5235254 A	19930810	12	Fluorescent lamp supply circuit	315/219
90	US 5225742 A	19930706	9	Solid state ballast for high intensity discharge lamps	315/307
91	US 5192897 A	19930309	11	Electronic high frequency controlled device for operating gas discharge lamps	315/308
92	US 5173643 A	19921222	26	Circuit for dimming compact fluorescent lamps	315/276

	Document ID	Issue Date	Pages	Title	Current OR
93	US 5134345 A	19920728	6	Feedback system for stabilizing the arc discharge of a high intensity discharge lamp	315/248
94	US 5117161 A	19920526	6	Electronic ballast for gas discharge lamps	315/226
95	US 5030887 A	19910709	10	High frequency fluorescent lamp exciter	315/158
96	US 4958108 A	19900918	9	Universal fluorescent lamp ballast	315/307
97	US 4949018 A	19900814	14	High pressure sodium lamp starter controller	315/225
98	US 4873471 A	19891010	19	High frequency ballast for gaseous discharge lamps	315/308
99	US 4797599 A	19890110	16	Power control circuit with phase controlled signal input	315/194
100	US 4728866 A	19880301	29	Power control system	315/224
101	US 4684850 A	19870804	10	Variable frequency bridge inverter for driving gas discharge lamps	315/209R
102	US 4609849 A	19860902	7	High pressure sodium vapor lamp having D.C. resistive ballast circuits	315/200R
103	US 4523131 A	19850611	8	Dimmable electronic gas discharge lamp ballast	315/307

	Document ID	Issue Date	Pages	Title	Current OR
104	US 4503364 A	19850305	20	Programming and control device for modified lead ballast for HID lamps	315/308
105	US 4482844 A	19841113	11	Lamp dimmer	315/194
106	US 4477748 A	19841016	15	Solid state ballast	315/306
107	US 4475065 A	19841002	13	Method of operating HID sodium lamp to minimize lamp voltage variation throughout lamp life	315/307
108	US 4414493 A	19831108	12	Light dimmer for solid state ballast	315/308
109	US 4409522 A	19831011	7	Direct current power source for an electric discharge lamp using reduced starting current	315/308
110	US 4398130 A	19830809	14	Arc lamp lighting unit with low and high light levels	315/226
111	US 4396872 A	19830802	16	Ballast circuit and method for optimizing the operation of high intensity discharge lamps in the growing of plants	315/308
112	US 4358717 A	19821109	11	Direct current power source for an electric discharge lamp	315/308
113	US 4350930 A	19820921	23	Lighting unit	315/49
114	US 3989976 A	19761102	9	Solid-state hid lamp dimmer	315/291

	Document ID	Issue Date	Pages	Title	Current OR
115	US 3913002 A	19751014	15	Power circuits for obtaining a high power factor electronically	363/18
116	US 3833817 A	19740903	6	EMERGENCY LIGHTING SYSTEM	307/66
117	US 3628086 A	19711214	7	HIGH-FREQUENCY LAMP-OPERATING CIRCUIT	315/80
118	DE 4017415 C	19910116	13	Lighting circuit for high-pressure discharge lamp for vehicle - has control circuit, voltage detector and current detector constituting feedback system for DC voltage booster	

	Document ID	Issue Date	Pages	Title	Current OR
1	US 20030117089 A1	20030626	27	Driving serially connected high intensity discharge lamps	315/312
2	US 20030117084 A1	20030626	17	Ballast with lamp sensor and method therefor	315/224
3	US 20030001516 A1	20030102	38	Electronic ballast	315/224
4	US 20020153849 A1	20021024	12	Electronic dimmable ballast for high intensity discharge lamp	315/247
5	US 20020074954 A1	20020620	16	Ballast with abnormal lamp sensor and method therefor	315/291
6	US 20020047601 A1	20020425	35	Method and apparatus for controlling a discharge lamp in a backlighted display	315/224
7	US 6459213 B1	20021001	37	Ballast for parallel-connected lamps	315/224
8	US 6351081 B1	20020226	8	Electronic ballast for high intensity discharge lamp	315/224
9	US 6316881 B1	20011113	34	Method and apparatus for controlling a discharge lamp in a backlighted display	315/219
10	US 6281642 B1	20010828	9	Ballast for a discharge lamp with false deactivation detection	315/308
11	US 6259215 B1	20010710	14	Electronic high intensity discharge ballast	315/307
12	US 6218787 B1	20010417	17	Remote dimming control system for a fluorescent ballast utilizing existing building wiring	315/194
13	US 6181084 B1	20010130	12	Ballast circuit for high intensity discharge lamps	315/291
14	US 6181079 B1	20010130	10	High power electronic ballast with an integrated magnetic component	315/247
15	US 6151232 A	20001121	25	Power supply circuit utilizing a piezoelectric transformer that supplies power to a load whose impedance varies depending on temperature	363/97
16	US 6114814 A	20000905	33	Apparatus for controlling a discharge lamp in a backlighted display	315/219
17	US 6081104 A	20000627	24	Method and apparatus for providing energy to a lighting system	323/268
18	US 6072710 A	20000606	7	Regulated self-oscillating resonant converter with current feedback	363/132
19	US 6057652 A	20000502	77	Power supply for supplying AC output power	315/307
20	US 6031749 A	20000229	21	Universal power module	363/98

	Document ID	Issue Date	Pages	Title	Current OR
21	US 6011360 A	20000104	9	High efficiency dimmable cold cathode fluorescent lamp ballast	315/244
22	US 6008590 A	19991228	13	Integrated circuit inverter control having a multi-function pin	315/209R
23	US 5982110 A	19991109	15	Compact fluorescent lamp with overcurrent protection	315/247
24	US 5951145 A	19990914	36	Lighting apparatus	362/216
25	US 5930126 A	19990727	12	Ballast shut-down circuit responsive to an unbalanced load condition in a single lamp ballast or in either lamp of a two-lamp ballast	363/37
26	US 5925990 A	19990720	13	Microprocessor controlled electronic ballast	315/307
27	US 5883473 A	19990316	17	Electronic Ballast with inverter protection circuit	315/225
28	US 5877681 A	19990302	27	System and method for broadcasting colored light for emergency signalling	340/471
29	US 5869935 A	19990209		Electronic ballast with inverter protection circuit	315/225
30	US 5864212 A	19990126		Control system for providing power to a gas discharge lamp	315/205
31	US 5853572 A	19981229		Home water purification system	210/87
32	US 5841239 A	19981124		Circuit for dimming compact fluorescent lamps	315/219
33	US 5838181 A	19981117		Pulse-width modulator circuit for use in low-cost power factor correction circuit	327/175

	Document ID	Issue Date	Pages	Title	Current OR
34	US 5834903 A	19981110		Double resonant driver ballast for gas lamps	315/219
35	US 5796216 A	19980818		Electronic ignition enhancing circuit having both fundamental and harmonic resonant circuits as well as a DC offset	315/307
36	US 5770925 A	19980623		Electronic ballast with inverter protection and relamping circuits	315/225
37	US 5751120 A	19980512		DC operated electronic ballast for fluorescent light	315/307
38	US 5742134 A	19980421		Inverter driving scheme	315/307
39	US 5699238 A	19971216		Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/21.03
40	US 5698091 A	19971216		Home water purification system with filter end of life monitor	210/87
41	US 5696431 A	19971209		Inverter driving scheme for capacitive mode protection	315/308
42	US 5691696 A	19971125		System and method for broadcasting colored light for emergency signals	340/471
43	US 5680017 A	19971021		Driving scheme for minimizing ignition flash	315/308
44	US 5677602 A	19971014		High efficiency electronic ballast for high intensity discharge lamps	315/224
45	US 5650925 A	19970722		Diode clamping arrangement for use in electronic ballasts	363/132
46	US 5636111 A	19970603		Ballast shut-down circuit responsive to an unbalanced load condition in a single lamp ballast or in either lamp of a two-lamp ballast	363/37
47	US 5568041 A	19961022		Low-cost power factor correction circuit and method for electronic ballasts	323/207
48	US 5546300 A	19960813		Zero voltage switching controller of resonance mode converter and electronic ballast using the same	363/132

	Document ID	Issue Date	Pages	Title	Current OR
49	US 5519289 A	19960521		Electronic ballast with lamp current correction circuit	315/224
50	US 5512801 A	19960430		Ballast for instant-start parallel-connected lamps	315/209R
51	US 5500792 A	19960319		Zero-voltage switching type electronic ballast for fluorescent lamp	363/98
52	US 5500576 A	19960319		Low height ballast for fluorescent lamps	315/307
53	US 5493180 A	19960220		Lamp protective, electronic ballast	315/91
54	US 5440475 A	19950808		Electronic Ballast with low harmonic distortion	363/45
55	US 5406471 A	19950411		AC-to-DC converter incorporating a chopper and charge-pump circuit combination	363/124
56	US 5402043 A	19950328		Controlled driven series-resonant ballast	315/307
57	US 5394062 A	19950228		Lamp ballast circuit with overload detection and ballast operability indication features	315/129
58	US 5384516 A	19950124		Information processing apparatus including a control circuit for controlling a liquid crystal display illumination based on whether illumination power is being supplied from an AC power source or from a battery	315/160
59	US 5371439 A	19941206		Electronic ballast with lamp power regulation and brownout accommodation	315/209R
60	US 5317237 A	19940531		Low voltage ballast circuit for a high brightness discharge light source	315/307
61	US 5235254 A	19930810		Fluorescent lamp supply circuit	315/219

	Document ID	Issue Date	Pages	Title	Current OR
62	US 5225742 A	19930706		Solid state ballast for high intensity discharge lamps	315/307
63	US 5192897 A	19930309		Electronic high frequency controlled device for operating gas discharge lamps	315/308
64	US 5173643 A	19921222		Circuit for dimming compact fluorescent lamps	315/276
65	US 5134345 A	19920728		Feedback system for stabilizing the arc discharge of a high intensity discharge lamp	315/248
66	US 5117161 A	19920526		Electronic ballast for gas discharge lamps	315/226
67	US 4873471 A	19891010		High frequency ballast for gaseous discharge lamps	315/308
68	US 4797599 A	19890110		Power control circuit with phase controlled signal input	315/194
69	US 4728866 A	19880301		Power control system	315/224
70	US 4684850 A	19870804		Variable frequency bridge inverter for driving gas discharge lamps	315/209R
71	US 4523131 A	19850611		Dimmable electronic gas discharge lamp ballast	315/307
72	US 4477748 A	19841016		Solid state ballast	315/306

	Document ID	Issue Date	Pages	Title	Current OR
73	US 4398130 A	19830809		Arc lamp lighting unit with low and high light levels	315/226
74	US 4358717 A	19821109		Direct current power source for an electric discharge lamp	315/308
75	US 4350930 A	19820921		Lighting unit	315/49
76	US 3628086 A	19711214		HIGH-FREQUENCY LAMP-OPERATING CIRCUIT	315/80
77	DE 4017415 C	19910116		Lighting circuit for high-pressure discharge lamp for vehicle - has control circuit, voltage detector and current detector constituting feedback system for DC voltage booster	